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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,677	11/10/2003	Seth A. Lieffort	59361US002	4649
7590	03/28/2005			EXAMINER TANG, SON M
Melissa E. Buss Office of Intellectual Property Counsel 3M Center, Bldg. 220-11W-01 P.O. Box 33427 St. Paul, MN 55133-1000			ART UNIT 2632	PAPER NUMBER
DATE MAILED: 03/28/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/705,677	LIEFFORT ET AL. <i>JK</i>	
	Examiner Son M Tang	Art Unit 2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 November 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>5/14/04 &amp; 11/8/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-8, 11, 14-18 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nylander [US 6,094,173] in view of Cooper [US 4,870,391].

**Regarding to claims 1, 6 and 25:** Nylander discloses a system, comprising:

-a plurality of radio frequency antennas 12-19 set up to provide one interrogation corridor (portal); and a RF reader 26 having receiver port (inheres in system to receive signal 22) to receive interrogation signal from the interrogation fields [as cited in Fig. 2, 9 and col. 1, lines 24-30 and col. 6, lines 4-61], Nylander does not specifically discloses a plural use of interrogation antennas each provides RF power to interrogation fields. It is clear to one skill in the art that, the interrogator signal power must be provided to drive the antenna to produce the interrogation field, in order to receive the detection interrogation signal at the receiver antenna, and Cooper teaches multiple frequency theft detection system comprises plural transmitting antennas [40, 42, 56 and 58] powered to produce interrogation fields of corridors, and there are plurality of interrogation corridors (aisles) are located near the exit 24 of a protected area [see Fig. 1-2, col. 3, lines 32-41 and col. 4, lines 29-42]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to have a plurality transmitting antennas as taught

by Cooper into the system of Nylander, in order to provide better interrogation zone coverage or plurality of zones/corridors.

**Regarding to claim 2:** Nylander further discloses a splitter [21] see Fig. 2.

**Regarding to claim 3:** Nylander further discloses the splitter 21 receives one or more input signals from antennas and combines signals to form a combined input signal for deliver to the RF reader [see Fig. 4-5, col. 4, lines 56-67].

**Regarding to claim 4:** Nylander further discloses plurality of antennas generate the input signals in response to at least one tag present within the interrogation fields [see col. 2, lines 63-67].

**Regarding to claim 5:** Nylander further discloses the splitter combines the input signals such that a weak input signal from one of the antennas is combined with a weak input signal from other antenna to increase the likelihood of detecting a tag in the corridor [see Fig. 4, col. 4, lines 56-67].

**Regarding to claim 7:** The claimed “wherein the reader generates a tag detection signal to indicate that at least one tag is present within the interrogation corridors” is inhered in the system, since reader uses for detecting tag in the detection portal or volume [see col. 1, lines 5-12].

**Regarding to claim 8:** Nylander further discloses a controller (26) for determining the detection of RFID tag signal generated by a tag during passage through a detection portal [see Abstract], except for not specifically disclose an alarm signal to produce an alarm when the tag detection signal is generated. It is obvious to one having ordinary skill in the art that, the

alarm that corresponding to that portal to be activated if the tag signal generated at that detection portal, so the personnel would react to the alarm faster.

**Regarding to claim 11:** Nylander further discloses that each antenna receives RF power from the reader that is out of phase with its neighboring antennas to produce rotating interrogation fields within the interrogation corridor [cited Figs. 5, 7, col. 3, lines 10-16], wherein two signals are out of phase with each other in the same timing.

**Regarding to claim 14:** Nylander further discloses that the T/R port that simultaneously provides each of the antennas with the RF power and accepts a signal produced by an RF tag in any of the interrogation corridors [as shown in Fig. 4, col. 1, lines 24-30, col. 2, lines 63-64], wherein a conventional interrogator the transmitter inheres in the interrogator for transmitting signal to the detection fields.

**Regarding to claims 15-18:** The claimed method steps are interpreted and rejected as rejection stated in the same considered claims above.

3. **Claims 9-10 and 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nylander in view of Cooper, and further in view of Lizzi et al. [US 5,030,941; Lizzi].

**Regarding to claims 9-10 and 19-20:** Nylander discloses all the limitation as described in claim above, except for not specifically discloses a plurality of sensors to detect a patron within any of the interrogation corridors and generate a patron signal, and output an alarm signal upon receiving the tag detection signal and the patron signal within a time period. Lizzi teaches an electronic article surveillance system that incorporating an auxiliary sensor 8 for detecting patron presence, wherein the system provides an alarm signal merely upon detecting an

active tag and a person present at between the screens 2, 3 of the EAS system 1 [as shown in Fig. 1, col. 4, lines 22-38, specifically lines 31-37], Lizzi does not mention a detected time period, however it would be obvious of an artisan that to prevent false alarm, the detection signal must be monitored for a predetermined time. Also, it would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to have a sensor to detect the patron presence incorporated with tag interrogation corridor system as taught by Lizzi into the system of Nylander, for the benefit of preventing any unnecessary false alarm signal.

4. **Claims 12 and 21-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nylander in view of Cooper, and further in view of Alicot [US 6,020,856].

**Regarding to claims 12 and 22-23:** Nylander discloses all the limitation as described in claim above, except for not specifically discloses that the antennas has a 90 degree phase difference from one of the neighboring antenna. Alicot teaches an EAS system antenna, which comprises multiple antennas each, has a 90-degree phase different [as shown in Fig. 7-10]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to have a 90-degree phase different as taught by Alicot into the system of Nylander, for the benefit of be able to detect any tag that positions in any orientation, since antennas have multiple phases can detected in x, y and z coordinate directions.

5. **Claims 13 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nylander in view of Cooper and Alicot, and further in view of Durec et al. [US 6,487,395; Durec].

**Regarding to claims 13 and 24:** Nylander and the combination disclose all the limitation as described in claim above, but lack in specifically teach the 90 phase difference is provided using quarter wavelength transmission lines. It is known in the art that, there are many methods to produce 90 degree out of phase, Durec teaches a known method to produce 90 degree phase difference (out of phase) by using quarter-wavelength transmission line [col. 2, lines 3-10 and col. 3, lines 9-12]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to use a known quarter wavelength transmission line method as taught by Durec into the combination above, for the advantage of accurate and quality signal.

6. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lizzi et al. [US 5,030,941; Lizzi] in view of Cooper [US 4,870,391].

**Regarding to claims 26-27:** Lizzi discloses a computer-readable medium comprising instructions that cause a processor to : receive from a single reader a tag detection signal that indicates at least one tag is present within an interrogation corridor [see Figs. 1-3, col. 3, lines 52-65], receive signal from an auxiliary sensor 8 for detecting patron presence, wherein the system provides an alarm signal merely upon detecting an active tag and a person present at between the screens 2, 3 of the EAS system 1 [as shown in Fig. 1, col. 4, lines 22-38, specifically lines 31-37], Lizzi does not mention a detected time period, however it would be obvious to one of an artisan that to prevent false alarm, the detection signal must be monitored for a specific predetermined time. Lizzi does not specifically disclose a plural interrogation corridors to be monitored, Cooper teaches a multiple frequency theft detection system comprises plural interrogation corridors (aisles I, II and III as shown in Fig. 1). It would have been obvious of one

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having ordinary skill in the art at the time of the claimed invention, to recognize that most retail stores provide plurality corridors near the exit as taught by Cooper, in order to provide better monitoring and faster service.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kaltner [US 5,126,749], Plonsky et al. [US 5,387,900] and Zampini et al. [US 6,307,473].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son M Tang whose telephone number is (571)272-2962. The examiner can normally be reached on 4/9 First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571)272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Son Tang



Benjamin C. Lee  
PRIMARY EXAMINER